

### AMENDMENTS TO THE CLAIMS

Please cancel claims 1-21 and add new claims 22-41. A complete set of the claims with their current status is shown below.

1-21. (Cancelled)

22. (New) A method comprising:

adding a metal ion to an initial complex comprising a target and a probe labeled with a transition metal ligand complex to produce an electrically conductive complex; and,  
applying a potential to the electrically conductive complex to produce a detectable signal.

23. (New) The method of claim 22, wherein said initial complex comprises a hybridized nucleic acid target and probe.

24. (New) The method of claim 22, wherein said transition metal ligand complex comprises ruthenium, osmium or iridium.

25. (New) The method of claim 22, wherein said metal ion is an ion of nickel, zinc or cobalt.

26. (New) A method comprising:

maintaining a composition comprising a target and a probe labeled with a transition metal ligand complex under conditions suitable for producing target/probe complexes;  
doping said composition with a metal ion to form a doped composition; and,  
applying a potential to said doped composition in order to produce a detectable signal from any target/probe complexes produced.

27. (New) The method of claim 26, wherein said potential is an electrical potential.

28. (New) The method of claim 26, wherein said transition metal ligand complex comprises ruthenium, osmium or iridium.

29. (New) The method of claim 26, wherein said metal ion is an ion of nickel, zinc or cobalt.
30. (New) The method of claim 26, wherein said target is immobilized on a solid support.
31. (New) The method of claim 26, wherein said solid support is an addressable array.
32. (New) The method of claim 26, wherein said probe is immobilized on a solid support.
33. (New) The method of claim 26, wherein said solid support is an addressable array.
34. (New) A method comprising:  
hybridizing a target and a probe labeled with a transition metal ligand complex to form a first complex;  
contacting said first complex with a metal ion to form an electrically conductive second complex; and,  
applying a potential to said electrically conductive complex to produce a detectable signal.
35. (New) The method of claim 34, wherein said potential is an electrical potential.
36. (New) The method of claim 34, wherein said transition metal ligand complex comprises ruthenium, osmium or iridium.
37. (New) The method of claim 34, wherein said metal ion is an ion of nickel, zinc or cobalt.
38. (New) The method of claim 34, wherein said target is immobilized on a solid support.

39. (New) The method of claim 34, wherein said solid support is an addressable array.
40. (New) The method of claim 34, wherein said probe is immobilized on a solid support.
41. (New) The method of claim 34, wherein said solid support is an addressable array.